

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: :
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Lars-Berno Fredriksson :
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Serial No.: To be assigned : Art Unit: To be assigned
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Filed: Herewith : Examiner: To be assigned
:
For: DEVICE IN A SYSTEM : Atty Docket: 0260/00072
OPERATING A CAN- :
PROTOCOL AND IN A :
CONTROL AND/OR :
SUPERVISION SYSTEM :

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to initial examination of the above-identified divisional application, please amend the case as follows:

IN THE SPECIFICATION

Kindly amend the specification as follows:

On page 1, before the first sentence, insert the section:

-- Cross References to Related Applications

The present application is a divisional of U.S. patent application Serial No. 09/101,748, filed July 17, 1998.--.

IN THE CLAIMS

Please cancel claims 1-27, without prejudice or disclaimer, and amend the remaining claims to read as follows:

28. (Amended) Device in a CAN-system (standard ISO 11898), comprising modules which can be connected via a digital serial communication connection and in which a function in a first module and/or equipment unit(s) controlled by this is/are intended to be able to be observed or registered at a location for the placement(s) of the first module and/or of the equipment unit(s), wherein a radiocommunication equipment means for connection with a radio part belonging to a second module in the system for the establishment of a radiocommunication channel between the location and another location for the placement of the second module, and the radiocommunication equipment means can be activated for initiation via a radio channel and said radio part by the activation of a signal in the second module, which signal activation induces the first module to perform its particular control and/or supervisory function, which in this case can be manipulated or stimulated at the location for the first module and/or its equipment unit(s).

29. (Amended) Device according to claim 28, wherein the CAN-system forms part of a machine-control system and/or a process-control system in which a first signal development obtains between the modules in the system for the performance of the particular process of the control system, and in that a first activation of the radiocommunication equipment means at the first location gives rise to a second activation of circuits in the second module, and in that the second activation gives rise to the signal activation in the second module.

30. (Amended) Device according to claim 29, wherein the signal activation caused by the second activation gives rise to a message initiation in the second module, which

prepares for a message transmission via a communication circuit of the module over the connection to the first module.

31. (Amended) Device according to claim 30, wherein the second module transmits the generated message according to a predetermined order of priority in the ordinary exchange of messages or signals between the first and second modules.

32. (Amended) Device according to claim 31, wherein the second module causes an interruption in the ordinary exchange of messages or signals within the CAN-system, and in that the signal activation in the second module, initiated by the second activation, takes charge of a generation and dispatch via a communication circuit, the connection to the first module, of one or more test messages.

33. (Amended) Device according to claim 32, wherein the second module, when a signal is activated on the basis of the second activation in the second module, imitates a control or supervisory function., which normally can occur in the machine and generates a supervisory control operation which is especially cut out for a testing or fault-searching function.

34. (Amended) Device according to claim 28, wherein the radiocommunication equipment means operates with two-way connections such that a stimulation of a controlled or supervised component at the first module produces a feedback from the first module via the connection to the second module, whereby an information signal representing the stimulation is generated, which information signal is transferred to the radio part situated at the second module, information which is transferred in this way via the radiocommunication equipment means being indicated or presented on or at the radiocommunication equipment means at the first module.

35. (Twice-amended) Device according to claim 28, wherein the equipment parts can observe and register the operation of input and output devices.

36. (Amended) Device according to claim 28, wherein the radiocommunication equipment means operates at high frequencies, e.g. frequencies of 2.4 GHz or more.

37. (Amended) Device according to claim 28, wherein the radiocommunication equipment means part at the first module is connected to a control or supervisory equipment part served by the first module.

38. (Amended) Device in a CAN-system (standard ISO 11898), comprising modules which can be connected via a digital serial communication connection and a first module means, and/or equipment unit(s) controlled by this, for observing or registering, at a location, the placement(s) of the first module means and/or of the equipment unit(s), characterized in that a radiocommunication equipment means for connection with a radio part belonging to a second module in the system for the establishment of a radiocommunication channel between the location and another location for the placement of the second module, and in that at the location the equipment unit(s) of the first module means can be stimulated by electrical and/or manual stimulation and the stimulation initiates the transmission of a message generated or present in the first module means over the connection to the second module, and in that the message hereupon induces activation of the radiocommunication equipment means and transfer of an item of information responding to the stimulation to an information-supplying unit, which delivers the information in question.

39. (Amended) Device according to claim 38, wherein the information makes it possible for a user to decide upon the relationship between the stimulation and the information.

40. (Amended) Device according to claim 39, wherein the stimulation induces a signal emission via a fixed connection established between the first module means and an information-supplying unit, and in that the information and signal-emission can be compared at the information-supplying unit in order to discover any defectiveness in the communication path via the serial communication, the second module and the radiocommunication channel.

REMARKS

Claims 27-40 are now pending in this application. The claims have been amended to eliminate multiple dependency and to incorporate the amendments made in parent application Serial No. 09/101,748. None of these amendments is believed to involve any new matter. Accordingly, it is respectfully requested that the foregoing amendments be entered, that the application as so amended receive an examination on the merits, and that the claims as now presented receive an early allowance.

Respectfully submitted,



George R. Pettit, Reg. No. 27,369
Connolly Bove Lodge & Hutz LLP
1990 M Street, N.W., Suite 800
Washington, D.C. 20036-3425
Telephone: 202-331-7111

Date: 5/3/01

AMENDMENTS TO THE CLAIMS

28. (Amended) Device in a CAN-system (standard ISO 11898), comprising modules [(1A, 2A, 3A, 4A)] which can be connected via a digital serial communication connection [(5A)] and in which a function in a first module [(1A)] and/or equipment unit(s) controlled by this is/are intended to be able to be observed or registered at a location [(A)] for the placement(s) of the first module [(1A)] and/or of the equipment unit(s), [characterised in that] wherein a radiocommunication equipment means [(8A, 9A) is arranged] for connection with a radio part [(9A)] belonging to a second module [(4A)] in the system for the establishment of a radiocommunication channel [(11A, 12A)] between the [first-named] location [(A)] and [a] another location [(B)] for the placement of the second module [(4A)], and [in that, instead of the placement(s) of the first module and/or of its equipment unit(s),] the radiocommunication equipment means [(8A, 9A)] can be activated for initiation [(i1)] via a radio channel [(11A)] and [the] said radio part [(9A) of the radiocommunication equipment] by the activation of a signal [(i2)] in the second module, which signal activation [(i2)] induces the first module [(1A), where there are no faults in the system,] to perform its particular control and/or supervisory function, which in this case can be [observed or registered] manipulated or stimulated at the location for the first module and/or its equipment unit(s).

29. (Amended) Device according to [patent] claim 28, [characterised in that] wherein the CAN-system forms part of a machine-control system and/or a process-control system in which a first signal development [(i5)] obtains between the modules in the system for the performance of the particular process of the control system, and in that a first activation [(i1)] of the radiocommunication equipment means at the first location [(A)] gives rise to a second activation of circuits in the second module [(4A)], and in that the second activation gives rise to the [said] signal activation [(i2)] in the second module.

30. (Amended) Device according to [patent] claim [9] 29, [characterised in that] wherein the signal activation [(i2)] caused by the second activation gives rise to a message initiation [(19A)] in the second module, which prepares for a message transmission via [the] a communication circuit [(20A)] of the module over the connection [(SA)] to the first module [(1A)].

31. (Amended) Device according to [patent] claim 30, [characterised in that] wherein the second module transmits the [thus] generated message [(19A)] according to a predetermined order of priority in the ordinary exchange of messages or signals [(i5)] between the first and second modules.

32. (Amended) Device according to [patent] claim 31, [characterised in that] wherein the second module causes an interruption in the ordinary exchange of messages or signals [(i5)] within the CAN-system, and in that the signal activation [(il)] in the second module [(4A)], initiated by the second activation, takes charge of [the] a generation and dispatch via a communication circuit [(20A)], the connection [(SA)] to the first module [(1A)], of one or more test messages.

33. (Amended) Device according to [any of the preceding patent claims] claim 32, [characterised in that] wherein the second module, when a signal is activated [(i2)] on the basis of the second activation in the second module, imitates a control or supervisory function., which normally can occur in the machine [and/or process control, and/or] and generates a [control and/or] supervisory control operation which is especially cut out for [the] a testing or fault-searching function.

34. (Amended) Device according to [any of the preceding patent claims] claim 28, [characterised in that] wherein the radiocommunication equipment means [(8A, 9A)]

operates with two-way connections [(11A, 12A)] such that a stimulation of a controlled or supervised component [or aggregate] at the first module [(1A)] produces a feedback from the first module via the connection [(5A)] to the second module [(4A)], whereby an information signal [(i3)] representing the stimulation is generated, which information signal is transferred to the radio [equipment] part [(9A)] situated at the second module, information which is transferred in this way via the radiocommunication equipment means being indicated or presented on or at the radiocommunication equipment means [part (8A)] at the first module.

35. (Twice-amended) Device according to [any of the preceding patent claims] claim 28, [characterised in that] wherein [those] the equipment parts [which can be observed or registered at the first module comprise components, e.g. valve(s), thermometer(s), etc.] can observe and register the operation of input and output devices.

36. (Amended) Device according to [any of the preceding patent claims] claim 28, [characterised in that] wherein the radiocommunication equipment means operates at high frequencies, e.g. frequencies of 2.4 GHz or more.

37. (Amended) Device according to [any of the preceding patent claims] claim 28, [characterised in that] wherein the radiocommunication equipment means part [(8A)] at the first module [(1A)] is connected to [those] a control or supervisory equipment [part(s)] part served by the first module.

38. (Amended) Device in a CAN-system (standard ISO 11898), comprising modules [(1A, 2A, 3A, 4A)] which can be connected via a digital serial communication connection [(5A)] and [in which a function in] a first module means, [(1A)] and/or equipment unit(s) controlled by this, [is/are intended to be able to be observed or

registered] for observing or registering, at a location, [(A) for] the placement(s) of the first module means [(1A)] and/or of the equipment unit(s), [characterised] characterized in that a radiocommunication equipment means [(8A, 9A) is arranged] for connection with a radio part [(9A)] belonging to a second module [(4A)] in the system for the establishment of a radiocommunication channel [(11A, 12A)] between the [first-named] location [(A)] and [a] another location [(B)] for the placement of the second module [(4A)], and in that at the location [for the placement of the first module] the equipment unit(s) of the first module means [is/are arranged such that they] can be stimulated by [means of the stimulation, e.g. with] electrical and/or manual stimulation[, in that] and the [said] stimulation initiates the transmission of a message [(21A)] generated or present in the first module means [(1A)] over the connection [(5A)] to the second module [(4A)], and in that the [said] message hereupon induces activation of the radiocommunication equipment means [(8A, 9A)] and transfer of an item of information responding to the [said] stimulation to an information-supplying unit [(13A)], which delivers the information in question.

39. (Amended) Device according to [patent] claim 38, [characterised in that] wherein the information in question makes it possible for a user to decide upon the relationship between the stimulation and the information.

40. (Amended) Device according to [patent] claim 39, [characterised in that] wherein the [said] stimulation induces a signal emission [(i3)] via a fixed connection [(17A)] established between the first module means [(1A)] and [the] an information-supplying unit [(13A)], and in that the [said] information and signal-emission can be compared at the information-supplying unit in order to discover any defectiveness in the communication path via the serial communication [(5A)], the second module [(4A)] and the radiocommunication channel [(12A)].